

Remarks

The Examiner's reconsideration of the application is requested in view of the amendments above and comments which follow.

Turning first to the rejection of claim 34 under 35 U.S.C. § 112 as set forth in numbered section 8 on page 3 of the Office Action, claim 34 had been appropriately amended to delete reference to "light" in the claim, leaving reference only to other errors which have previously been set forth. With this amendment, it is submitted that all is in order.

In section 10 on page 4 of the Office Action, the Examiner has rejected independent claims 32 and 48 under 35 U.S.C. § 102(b) as being anticipated by Endo et al. The remaining claims under examination have been rejected on the basis of obviousness under 35 U.S.C. § 103(a). Reconsideration is requested.

The applicants do not agree that claims 32 and 48 are anticipated by Endo (US 2002/0097490). Endo does not disclose control means as is required by applicants' claims. In particular, Endo does not disclose a controller programmed to function as a state machine.

The Examiner has referred to Figure 19 of Endo, and expresses the view in Section 13 of the action that the computer device disclosed in Endo satisfies our claimed feature of a "state machine". Applicants do not agree with this view.

Figure 19 of Endo is described in paragraph 0219 onwards, starting on page 12. This Figure concerns a confocal scanning microscope arrangement including a computer 86 (which can be generally equated with the host computer of our claim). Figure 19 of Endo also includes a control circuit 78 which controls rotation of disk 102 and operation of CCD 46. No detail is given of the control circuit 78. There is certainly no disclosure of control circuit 78 functioning as a state machine.

It is not the case that any computer or controller can be considered a state machine. Instead, the term "state machine" will be understood by one skilled in the art to have a more specific meaning, as applicants have previously explained.

Considering matters in slightly more detail, a state machine is a specific formalism for the generation of a clear set of output codes, based on a set of input codes which may come from a memory and/or external sources, where the decision to move from one state to the next is provided by a clock signal. The behavior is thus precisely predictable and well-controllable. Use of a computer or controller does not in itself imply that it is functioning as a state machine.

The present invention uses a state machine e.g. as illustrated in Figures 4 and 5 and as described in the last paragraph on page 26 to the end of page 32 of the specification as filed. The disclosed state machine comprises elements including a state counter 60, a state memory 62 and a duration downcounter 58 which receives a clock signal (see page 27 first paragraph).

It is critical to the present invention to use a state machine to achieve precise and accurate control of components including the image capture device, excitation light source and scanning system so that these are properly synchronized, as explained in the last paragraph on page 2 of the specification. This is necessary to coordinate and synchronize the components to provide a good quality image free of defects and artefacts. Such precise control is not achievable by use of a general purpose computer or controller. Use of a state machine having features as discussed above is essential.

In order to clarify this point, claims 32 and 48 have been amended to introduce reference to critical features of the state machine, namely a state counter, a state memory and a duration downcounter which receives a clock signal. Such amendment is based on page 27 paragraphs 1 and 2.

Such claim amendment addresses the point raised in Section 13b of the office action.

Further, Endo does not disclose an arrangement in which light from the specimen is only incident on the image capture device for a specific time period equal to that required by the scanning system to scan the area of interest n times where n is a whole number equal to or greater than 1. This limitation is present in method claim 48, and claim 32 has been amended to introduce the word "only" three lines from the end to bring the two claims into conformity.

Use of a state machine controller is critical in the present invention to obtain the necessary precisely coordinated control of the components (the image capture device, excitation light source and scanning system) to achieve this requirement, in a way that is not achievable with a conventional control system such as the control circuit 78 of Figure 19 of Endo. These two areas of difference over Endo thus interact and cooperate to enable production of high quality images in a way not hitherto possible.

An information disclosure statement is also submitted herewith to bring to the attention of the Examiner prior art cited on the corresponding British application. Four additional documents were cited in British prosecution as follows:

US 2002/0024026 A

EP 1133168 A2

US 2002/0017562 A

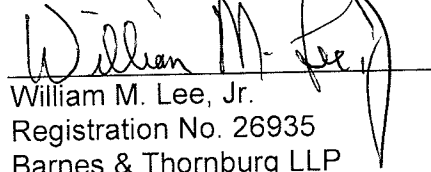
Review of Scientific Instruments, Vol 72, No. 11, November 2001, pages 4145 to 4152 M Bomer et al.

Copies of the cited documents are submitted, other than US patent documents.

Given the above, the Examiner's further and favorable reconsideration of the application is urged.

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Respectfully submitted,

A handwritten signature in black ink, appearing to read "William M. Lee, Jr.", is written over a horizontal line.

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